

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all of the prior versions, and listings, of claims in the application:

1. (Currently Amended) A method for communicating data in a time division multiple access system where the data is transmitted wirelessly between stations in time slots, the time slots being organized in frames of a repeating frame structure, the stations selecting time slots for transmission of data according to a self-organizing transmission algorithm which allows a first station to reuse a time slot that is allocated to a second station, the method comprising:

transmitting an addressed message from a first base station to a mobile station via a message handling entity,

~~transmitting, in response to the addressed message,~~ an acknowledgement message, which has been generated by the mobile station in response to the addressed message and sent to a second base station, and

repeating the transmission of the addressed message from the first base station to the mobile station until either a message handling entity being responsible for the transmission of the addressed message has received the acknowledgement message from the second base station or a maximum number of retransmissions has been performed,

receiving the acknowledgement message in the second base station,

forwarding the acknowledgement message from the second base station to the message handling entity, the message handling entity being connected to a network to which both the first base station and the second base station are connected, either directly or via at least one intermediate node, and receiving the acknowledgement message in the message handling entity via the network.

2. (Original) A method according to claim 1, further comprising forwarding the acknowledgement message via the network to the message handling entity within the first base station.

3. (Original) A method according to claim 1, further comprising forwarding the acknowledgement message via the network to a node in the network which is separated from the first base station.
4. (Original) A method according to claim 1, wherein the self-organizing transmission algorithm permits only the first station to reuse a time slot allocated to a base station if the base station is located outside a threshold distance from the first station.
5. (Original) A method according to claim 4, wherein the self-organizing transmission algorithm permits the first station to reuse a time slot allocated to a mobile station that is located at any distance from the first station.
6. (Original) A method according to claim 1, wherein the first station is a mobile station.
7. (Currently Amended) A computer program stored on a ~~tangible computer readable storage~~ storage medium and directly loadable into the internal memory of a digital computer, comprising software for accomplishing the steps of claim 1, when said program is run on a computer.
8. (Currently Amended) A computer readable storage medium, having a program recorded thereon, where the program is to make a computer accomplish the steps recited in claim 1.
9. (Original) A message handling entity for controlling data communication between at least one base station and at least one mobile station in a time division multiple access system where the data is transmitted wirelessly between the stations in time slots, the time slots are organized in frames of a repeating frame structure, the stations select time slots for transmission of data according to a self-organizing transmission algorithm which allows a first station to reuse a time slot that is allocated to a second station, comprising:
a memory area adapted to hold status information pertaining to an addressed message sent from a first base station to a particular mobile station,

an interface towards a network adapted to
send a control message ordering the first base station to transmit an addressed message to the mobile station,
receive an acknowledgement message from a second base station, the acknowledgement message having been generated by the mobile station in response to the addressed message and sent to the second base station, and
forward the acknowledgement message for processing in the message handling entity, and a central unit adapted to
order retransmission of the addressed message from the first base station, if after a predetermined interval from the transmission of the addressed message, the status information remains intact in the memory area,
order repeated retransmission a maximum number of times, and
receive the acknowledgement message, and in response thereto, clear the status information in the memory area.

10. (Previously Presented) The message handling entity of claim 9, wherein the first base station comprises:

a transmitter adapted to transmit the addressed message to the particular mobile station,
a second memory area adapted to hold status information pertaining to the addressed message,
a receiver adapted to receive the acknowledgement message generated by the mobile station in response to the addressed message, and
forward the acknowledgement message for processing in the first base station, and a central unit adapted to
retransmit the addressed message, if after a predetermined interval from the transmission of the addressed message, the status information remains intact in the memory area, repeat the retransmission a maximum number of times, and
receive the acknowledgement message, and in response thereto, clear the status information in the memory area, and

an interface towards a network to which at least one other base station is connected, the interface being adapted to receive acknowledgement messages from the at least one other base station and forward any such messages to the central unit.

11. (Original) A base station according to claim 10, characterized in that the receiver is adapted to receive acknowledgement messages in respect of at least one other base station, and the interface is further adapted to forward acknowledgement messages received in respect of the at least one other base station to the respective at least one other base station via the network.